

IN THE CLAIMS

1-28 (canceled)

29. (new) A process for producing resin-impregnated mats from fiber-reinforced plastics, sheet-molding compounds (SMCs), for use as semi-finished products in the production of components by the extrusion process, comprising forming a non-woven-fabric reinforcement of a resin-impregnated mat from at least one layer of intersecting endless fibers which resembles a textile structure, the alignment of these fibers, the fiber orientation, being matched to the loading by the forces acting on the component, wherein the non-woven-fabric reinforcement is drawn off in one piece from a roll and after impregnation with the resin is cut to size in accordance with the given contour.
30. (new) The process according to claim 29, wherein the non-woven-fabric reinforcement is additionally built up from layers of fibers having a different alignment.
31. (new) The process according to claim 29, wherein at least one layer of unidirectionally aligned fibers is introduced into the non-woven-fabric reinforcement of the resin-impregnated mat.
32. (new) The process according to claim 29, wherein the fibers of the textile structure and, optionally the other fibers of the non-woven fabric are aligned in relation to the effective direction of individual forces.
33. (new) The process according to claim 29, wherein the fibers of the textile structure and, where appropriate, the other fibers of the non-woven fabric are joined to one another at their points of intersection.

34. (new) The process according to claim 29, wherein the fibers of the textile structure in the non-woven-fabric reinforcement are laid onto one another at an angle of intersection that corresponds to the angles of intersection of conventional textile structures.
35. (new) The process according to claim 29, wherein in the case of a thrust loading of the component the fibers of the textile structure are laid at an angle of intersection of 45 degrees.
36. (new) The process according to claim 29, wherein the resin-impregnated mat is built up from several layers of a non-woven-fabric reinforcement which each exhibit a textile structure.
37. (new) The process according to claim 36, wherein in the individual layers the angles of intersection of the fibers of the textile structures are chosen to be different.
38. (new) The process according to claim 29, further comprising introducing at least one layer of random fibers is introduced into the resin-impregnated mat.
39. (new) The process according to claim 29, wherein the fibers are produced from glass, carbon, aramide or HD polyethylene.
40. (new) The process according to claim 29, wherein the fibers in the resin-impregnated mat are prepared for a flow.
41. (new) A resin-impregnated mat produced by the process according to claim 29, wherein the non-woven-fabric reinforcement of the resin-impregnated mat comprises at least one layer of intersecting endless fibers which resembles a textile structure, the alignment of these fibers, the fiber orientation, being matched to the loading by the forces acting on the component.

42. (new) The resin-impregnated mat according to claim 41, wherein the non-woven-fabric reinforcement is additionally built up from layers of fibers having a different alignment.
43. (new) The resin-impregnated mat according to claim 41, wherein at least one layer of unidirectionally aligned fibers has been introduced into the non-woven-fabric reinforcement of the resin-impregnated mat.
44. (new) The resin-impregnated mat according to claim 41, wherein the fibers in the textile structure and, optionally, the other fibers in the non-woven fabric are aligned in relation to the effective direction of individual forces.
45. (new) The resin-impregnated mat according to claim 41, wherein the fibers of the textile structure and, optionally, the other fibers of the non-woven fabric are joined to one another at their points of intersection.
46. (new) The resin-impregnated mat according to claim 41, wherein the fibers in the textile structure of the non-woven-fabric reinforcement are laid onto one another at an angle of intersection that corresponds to conventional textile structures.
47. (new) The resin-impregnated mat according to claim 41, wherein in the case of a thrust loading of the component the fibers of the textile structure are laid at an angle of intersection of 45 degrees.
48. (new) The resin-impregnated mat according to claim 41, wherein the resin-impregnated mat is built up from several layers of a non-woven-fabric reinforcement which each exhibit a textile structure.
49. (new) The resin-impregnated mat according to Claim 48, wherein individual layers the angles of intersection of the fibers of the textile structures are different.

50. (new) The resin-impregnated mat according to claim 48, wherein the resin-impregnated mat additionally contains at least one layer of random fibers.
51. (new) The resin-impregnated mat according to claim 48, wherein the fibers consist of glass, carbon, aramide or HD polyethylene.
52. (new) A process for producing components from resin-impregnated mats produced by a process of claim 29, wherein a matured resin-impregnated mat that has been prepared for extrusion, produced with a non-woven-fabric reinforcement consisting of at least one layer of intersecting endless fibers, is drawn off in the form of a web from its roll, in that the backing film and the covering film are peeled off from the web, wherein a blank having the crude contour of the component to be generated is cut out of the web, wherein this blank of the resin-impregnated mat is placed into a press, in that further blanks are generated, wherein so many blanks are placed into the press until the requisite wall thickness of the component to be generated has been attained, and the extrusion operation is then carried out in known manner.
53. (new) A process for producing components from resin-impregnated mats produced by a process as described in claim 29, wherein matured resin-impregnated mats that have been prepared for extrusion, produced with a non-woven-fabric reinforcement consisting of at least one layer of intersecting endless fibers, are drawn off in the form of webs from rolls, wherein the backing films and covering films are peeled off from the webs, wherein the webs are superimposed in several, at least two, layers, wherein a blank having the crude contour of the component to be generated is cut out of the webs, wherein this blank comprising at least two layers of resin-impregnated mats is placed into a press, wherein so many blanks are placed into the press until the requisite wall thickness of the component to

be generated has been attained, and wherein the extrusion operation is then carried out in known manner.

- 54. (new) The process according to claim 52, wherein the cutting of the blanks out of the webs by means of a computer-controlled cutting device is undertaken automatically after presetting of the dimensions of the blank or of the contour of the blank.
- 55. (new) The process according to claim 53, wherein the cutting of the blanks out of the webs by means of a computer-controlled cutting device is undertaken automatically after presetting of the dimensions of the blank or of the contour of the blank.
- 56. (new) The process according to claim 42, wherein the blanks are picked up by means of a computer-controlled handling device and are placed into the press.
- 57. (new) The process according to claim 56, wherein the cutting of the blanks out of the webs by means of a computer-controlled cutting device is undertaken automatically after presetting of the dimensions of the blank or of the contour of the blank.
- 58. (new) The process according to claim 52, wherein the data relating to the composition of the resin-impregnated mats, the production date of the resin-impregnated mats, the characteristic data of the cutting device, the component number, the position of the blank in the component, the characteristic data of the press and, optionally of the handling device and also the production date of the component are stored, assigned to the component, optionally encoded in a code and optionally attached to it, and in that in the event of a production fault or in the event of damage the cause is sought on the basis of these data.
- 59. (new) The process according to claim 53, wherein the data relating to the composition of the resin-impregnated mats, the production date of the resin-impregnated mats, the characteristic data of the cutting device, the component number, the position of the blank

in the component, the characteristic data of the press and, optionally of the handling device and also the production date of the component are stored, assigned to the component, optionally encoded in a code and optionally attached to it, and in that in the event of a production fault or in the event of damage the cause is sought on the basis of these data.